Figure 1
(Prior Art)

10

Pate

See 31041

for related

drawing

Processor
13

Memory
14

Figure 2   TI-32537

100

102
104
106
108
110

a.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
P1: Solve for x
$x^2 - 3 \cdot x = 4$
MAIN   RAD AUTO   FUNC   1/1

b.

SELECT TRANSFORMATION
$x^2 - 3 \cdot x = 4$
1:add ? to each side
2:multiply each side by ?
3:switch sides
4:factor left-hand side
5:complete the square
6:enter subexpr selection
TYPE OR USE ←→↑↓ + [ENTER] OR [ESC]

c.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
add ? to each side
$x^2 - 3 \cdot x = 4$
? = -4
‹Enter=OK›   ‹ESC=CANCEL›
MAIN   RAD AUTO   FUNC   1/1

d.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
P1: Solve for x
$x^2 - 3 \cdot x = 4$
▸ add -4 to each side
Press <ENTER>
MAIN   RAD AUTO   FUNC   [2:USE]

e.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
P1: Solve for x
$x^2 - 3 \cdot x = 4$
▸ add -4 to each side
$x^2 - 3 \cdot x + -4 = 4 + -4$
MAIN   RAD AUTO   FUNC   1/1

f.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
P1: Solve for x
$x^2 - 3 \cdot x = 4$
▸ add -4 to each side
$x^2 - 3 \cdot x + -4 = 4 + -4$
▸ simplify
Press <ENTER>
MAIN   RAD AUTO   FUNC   [2:USE]

g.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
P1: Solve for x
$x^2 - 3 \cdot x = 4$
▸ add -4 to each side
$x^2 - 3 \cdot x + -4 = 4 + -4$
▸ simplify
$x^2 - 3 \cdot x - 4 = 0$
MAIN   RAD AUTO   FUNC   1/1

h.

SELECT TRANSFORMATION
$x^2 - 3 \cdot x - 4 = 0$
1:add ? to each side
2:multiply each side by ?
3:switch sides
4:factor left-hand side
5:quadratic formula
6:enter subexpr selection
MAIN   RAD AUTO   FUNC   1/1

i.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
P1: Solve for x
$x^2 - 3 \cdot x + -4 = 4 + -4$
▸ simplify
$x^2 - 3 \cdot x - 4 = 0$
▸ factor left-hand side
$(x - 4) \cdot (x + 1) = 0$
MAIN   RAD AUTO   FUNC   1/1

j.

SELECT TRANSFORMATION
$(x - 4) \cdot (x + 1) = 0$
1:add ? to each side
2:multiply each side by ?
3:switch sides
4:A·B=0 → A=0 or B=0
5:distribute multiplicati
6:(A±B)·C → A·C ± B·C
7:A·(B±C) → A·B ± A·C
MAIN   RAD AUTO   FUNC   1/1

k.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
P1: Solve for x
$x^2 - 3 \cdot x - 4 = 0$
▸ factor left-hand side
$(x - 4) \cdot (x + 1) = 0$
▸ A·B=0 → A=0 or B=0
$x - 4 = 0$ or $x + 1 = 0$
MAIN   RAD AUTO   FUNC   1/1

l.

SELECT TRANSFORMATION
$x - 4 = 0$ or $x + 1 = 0$
1:solve linear equation
2:enter subexpr selection
TYPE OR USE ←→↑↓ + [ENTER] OR [ESC]

m.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
P1: Solve for x
$(x - 4) \cdot (x + 1) = 0$
▸ A·B=0 → A=0 or B=0
$x - 4 = 0$ or $x + 1 = 0$
▸ solve linear equation
$x = 4$ or $x = -1$
MAIN   RAD AUTO   FUNC   1/1

n.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
P1: Solve for x
$x^2 - 3 \cdot x - 4 = 0$
▸ quadratic formula
$x = \dfrac{-3 + \sqrt{(-3)^2 - 4 \cdot 1 \cdot -4}}{2 \cdot 1}$ or ▸
MAIN   RAD AUTO   FUNC   1/1

o.

F1▾ Prob Set | F2▾ Prob | F3 a+b | F4 Trans | ⋮ | F6▾ ? | F7▾ Tools
P1: Solve for x
▸ quadratic formula
$x = \dfrac{-3 + \sqrt{(-3)^2 - 4 \cdot 1 \cdot -4}}{2 \cdot 1}$ or ▸
▸ simplify
$x = 4$ or $x = -1$
MAIN   RAD AUTO   FUNC   1/1

Figure 3

Figure 3

(a)

(b)

(c)

(d)